

CLAIMS:

Sub B1 1. A device for training one or more reading and spelling skills of a user including  
2 phonological and morphological skills, the device comprising:

3 a graphical display that displays images to a user;

4 a user input device that permits the user to interact with the computer; and

5 a game that presents stimuli to the user so that the user can respond to the stimuli and  
6 improve the reading and spelling skills of the user, the game further comprising a phonological  
7 skills training portion for training the phonological skills of the user and a sound/symbol  
8 correspondence training portion for training the sound/symbol correspondence skills of the user  
9 wherein the game trains the phonological skills of the user and then transitions to training the  
10 sound/symbol correspondence skills once the phonological skills are mastered.

Sub A1 2. The device of Claim 1, wherein the phonological training portion further  
1 comprises a morphological skills training portion to train the user's skills at decoding a word and  
2 vocabulary.  
3

1 3. The device of Claim 2, wherein the sound/symbol training portion further  
2 comprises a phonics portion to train the user's skills at decoding printed words and awareness of  
3 the connections between speech and print.

1 4. The device of Claim 1, wherein the game further comprises one or more modules  
2 that train different skills of the user wherein each module trains one or more different skills of  
3 the user.

1           5.     The device of Claim 4, wherein the one or more modules further comprise a  
2 segmentation, discrimination and syllable stress training module, a segmentation, blending,  
3 decoding and spelling training module, a sound/symbol correspondence training module and a  
4 sound and word recognition training module.

1           6.     The device of Claim 5, wherein each module further comprises means for  
2 providing a cue to the user, wherein the cues are auditory cues first, then auditory and visual cues  
3 and then visual cues.

1           7.     The device of Claim 1, wherein the game further comprises means for adaptively  
2 changing the difficulty of the training of the user based on user performance.

1           8.     The device of Claim 7, wherein the difficulty changing means further comprises  
2 means for changing one or more difficulty variables to change the difficulty of the training.

1           9.     The device of Claim 8, wherein the difficulty changing means further comprises  
2 means for increasing the difficulty of the training if the user has met a predetermined increase  
3 level criteria and means for decreasing the difficulty of the training if the user has met a  
4 predetermined decrease level criteria.

1           10.    The device of Claim 1, wherein the game is stored on a server computer and  
2 downloaded to a client computer and wherein the user input device and the graphical display are  
3 part of a client computer connected to the server computer by a computer network.

1           11.    The device of Claim 10, wherein the server further comprises means for  
2 downloading changes to the game from the server computer to the client computer.

1           12.    The device of Claim 1, wherein the game is stored on a compact disk and then  
2 loaded into a computer having the graphical display and the user input device.

1           13.    The device of Claim 10, wherein the server further comprises a diagnostic tool for  
2 testing the skills of the user in order to customize the game for a particular user and means for  
3 downloading the customized game from the server computer to the client computer of the  
4 particular user.

1           14.    The device of Claim 10, wherein the server further comprises a scoring database  
2 that stores the scores of the users of the system.

1           15.    The device of Claim 14, wherein the server further comprises means for  
2 generating statistics about the scores stored in the scoring database.

1           16.    The device of Claim 1, wherein the game further comprises a module for training  
2 the user's skills at identifying the correspondence between sounds and symbols.

112 224 17.    The device of Claim 16, wherein the module further comprises a task in which the  
2 user sorts words into one or more categories in order to identify patterns in printed words.

1           18.    The device of Claim 17, wherein the sorting task further comprises means for  
2 sorting words based on an initial portion of a word, means for sorting words based on a middle  
3 portion of the words and means for sorting a word based on a final portion of the words.

1           19.    The device of Claim 17, wherein the module further comprises a second task in  
2 which the user sorts words into one or more semantic categories.

1           20.    The device of Claim 17, wherein the module further comprises a third task in  
2    which the user identifies a word that is spelling is reverse order to a target word.

1           21.    A method for training one or more reading and spelling skills of a user including  
2    phonological and morphological skills using a computer system having a graphical display for  
3    displaying images to the user and a user input device to permit the user to interact with the  
4    computer, the method comprising:

5           executing a game that presents stimuli to the user so that the user can respond to the  
6    stimuli and improve the reading and spelling skills of the user, the game further comprising a  
7    phonological skills training portion for training the phonological skills of the user and a  
8    sound/symbol correspondence training portion for training the sound/symbol correspondence  
9    skills of the user wherein the game trains the phonological skills of the user and then transitions  
10   to training the sound/symbol correspondence skills once the phonological skills are mastered.

11           22.    The method of Claim 21, wherein the phonological training portion further  
12   comprises a morphological skills training portion to train the user's skills at decoding a word and  
13   vocabulary.

1           23.    The method of Claim 22, wherein the sound/symbol training portion further  
2   comprises a phonics portion to train the user's skills at decoding printed words.

1           24.    The method of Claim 21, wherein the game further comprises simultaneously  
2   training one or more skills of the user using one or more modules that train different skills of the  
3   user.

1           25.    The method of Claim 24, wherein the one or more modules further comprise a  
2 segmentation, discrimination and syllable stress training module, a segmentation, blending,  
3 decoding and spelling training module, a sound/symbol correspondence training module and a  
4 sound and word recognition training module.

1           26.    The method of Claim 25, wherein each module further comprises providing a cue  
2 to the user wherein the cues are auditory cues first, then auditory and visual cues and then visual  
3 cues.

1           27.    The method of Claim 21, wherein the game further comprises adaptively changing  
2 the difficulty of the training of the user based on user performance.

1           28.    The method of Claim 27, wherein the difficulty changing further comprises  
2 changing one or more difficulty variables to change the difficulty of the training.

1           29.    The method of Claim 28, wherein the difficulty changing further comprises  
2 increasing the difficulty of the training if the user has met a predetermined increase level criteria  
3 and decreasing the difficulty of the training if the user has met a predetermined decrease level  
4 criteria.

1           30.    The method of Claim 21, wherein the game is stored on a server computer and  
2 downloaded to a client computer and wherein the user input method and the graphical display are  
3 part of a client computer connected to the server computer by a computer network.

1           31.    The method of Claim 30, wherein the server further comprises downloading  
2 changes to the game from the server computer to the client computer.

1 32. The method of Claim 21, wherein the game is stored on a compact disk and then  
2 loaded into a computer having the graphical display and the user input method.

1 33. The method of Claim 30, wherein the server further comprises testing the skills of  
2 the user with diagnostic tool in order to customize the game for a particular user and  
3 downloading the customized game from the server computer to the client computer of the  
4 particular user.

1 34. The method of Claim 30, wherein the server further comprises using a scoring  
2 database that stores the scores of the users of the system.

1 35. The method of Claim 34, wherein the server further comprises generating  
2 statistics about the scores stored in the scoring database.

1 36. The method of Claim 21, wherein the game further comprises a module for  
2 training the user's skills at identifying the correspondence between sounds and symbols.

1 37. The method of Claim 36, wherein the module further comprises a task in which  
2 the user sorts words into one or more categories in order to identify patterns in printed words.

1 38. The method of Claim 37, wherein the sorting task further comprises sorting words  
2 based on an initial portion of a word, sorting words based on a middle portion of the words and  
3 sorting a word based on a final portion of the words.

1 39. The method of Claim 37, wherein the module further comprises a second task in  
2 which the user sorts words into one or more semantic categories.

1           40.    The method of Claim 37, wherein the module further comprises a third task in  
2    which the user identifies a word that is spelling is reverse order to a target word.

1           41.    A method for training a user's spelling and reading skills, comprising  
2           visually presenting a target word to the user for a predetermined time;  
3           visually presenting a series of words to the user after the target word is removed; and  
4           prompting the user to identify the word in the series of words whose letters are in reverse  
5           order to the target word.

1           42.    The method of Claim 41 further comprising receiving a response from the user  
2           indicating a selected word, analyzing the selected word to determine if it is the correct choice,  
3           and providing feedback to the user about the selected word.

1           43.    A computer implemented system for training the reading and spelling skills of a  
2           user, comprising:

3           a graphical display that visually presenting a target word to the user for a predetermined  
4           time;

5           the graphical display visually presenting a series of words to the user after the target word  
6           is removed; and

7           means for prompting the user to identify the word in the series of words whose letters are  
8           in reverse order to the target word.

1           44.    The system of Claim 43 further comprising a user input device that receives a  
2           response from the user indicating a selected word, means for analyzing the selected word to

3 determine if it is the correct choice, and means for providing feedback to the user about the  
4 selected word.

1 45. A method for training a user's spelling and reading skills, comprising  
2 visually presenting one or more words to the user;  
3 visually presenting one or more categories into which the word is sorted by the user; and  
4 prompting the user to sort the one or more words into the one or more categories to  
5 improve the user's skills at recognizing patterns in words.

6 46. The method of Claim 45 further comprising receiving a response from the user  
7 indicating a selected category, analyzing the selected category to determine if it is the correct  
8 category, and providing feedback to the user about the selected category.

9 47. The method of Claim 45, wherein the one or more categories are semantic  
10 categories.

11 48. The method of Claim 47, wherein the semantic categories further comprise one or  
12 more of colors, numbers, shapes, animals, objects and people.

13 49. A computer implemented system for training the reading and spelling skills of a  
14 user, comprising:

15 a graphical display that visually presents one or more words to the user;

the graphical display visually presenting one or more categories into which the word is  
sorted by the user; and



6 means for prompting the user to sort the one or more words into the one or more  
7 categories to improve the user's skills at recognizing patterns in words.

1 50. The system of Claim 49 further comprising a user input device that receives a  
2 response from the user indicating a selected category, means for analyzing the selected category  
3 to determine if it is the correct category, and means for providing feedback to the user about the  
4 selected category.

1 51. The system of Claim 49, wherein the one or more categories are semantic  
2 categories.

1 52. The system of Claim 51, wherein the semantic categories further comprise one or  
2 more of colors, numbers, shapes, animals, objects and people.